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† Deceased

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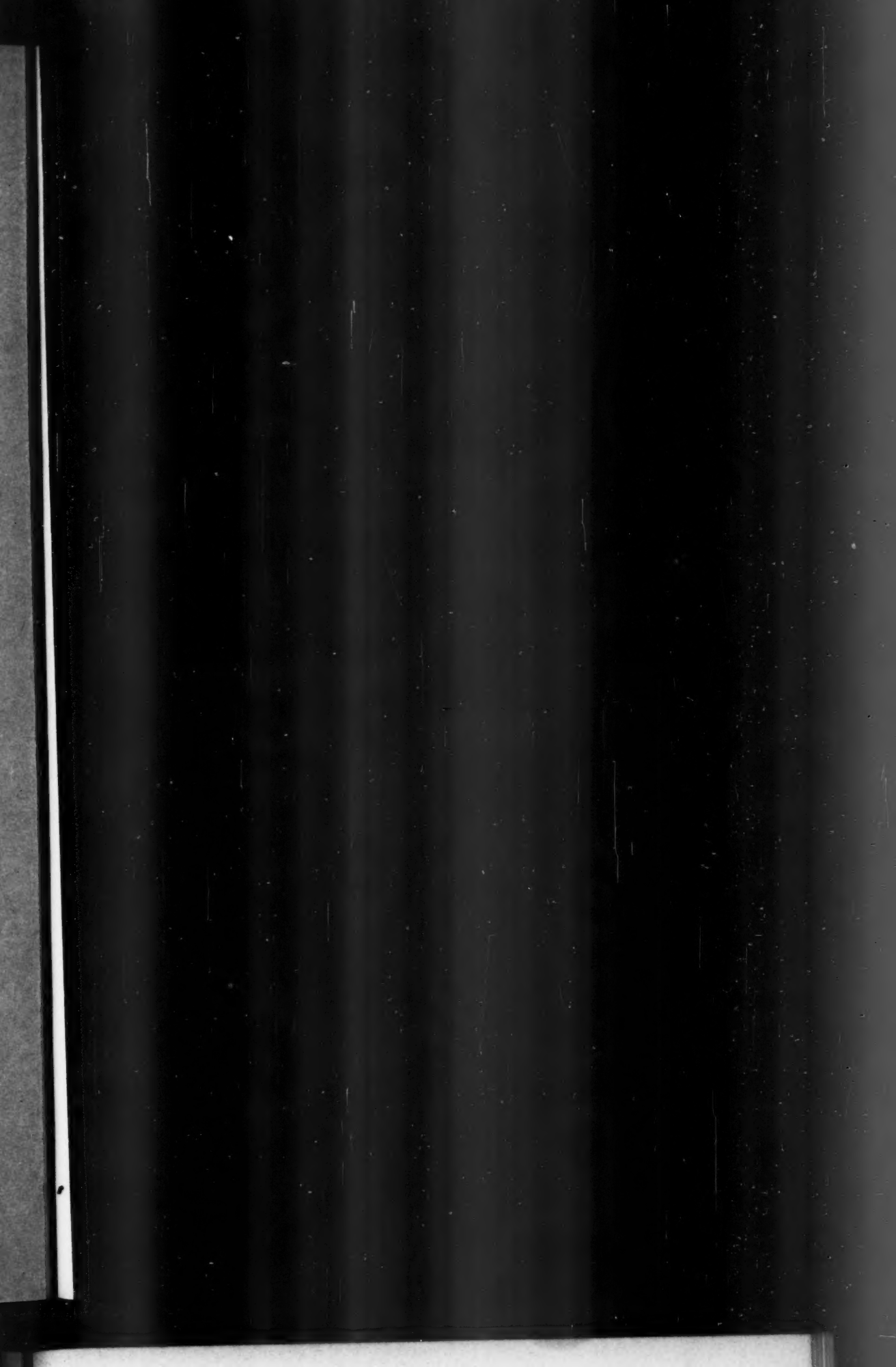


What Buyers and Assistant Buyers Need to Know

The Preparation of a Course for Buyers and Assistant Buyers

By Fredonia Jane Ringo, *Research Bureau for Retail Training, Pittsburgh, Pennsylvania*

Research methods useful in laying solid foundations for the development of a training program are admirably illustrated in Miss Ringo's article on the preparation of a training course for certain types of retail store executives.

NEARLY three years ago there was begun at the Research Bureau for Retail Training a study of the duties of assistant buyers in department stores. At first the investigation consisted of the making of a job analysis; then it developed into the building up of a training course based on the analysis. From dealing with the position of assistants only, it grew into a study of the buyer's job as well.

The investigation was not unique in purpose or method. It was, however, different from the job analyses which had been made in specific stores in one respect: it was a study carried on in a group of stores and therefore representative of widely varying policies and conceptions of the job of buyer or assistant. Likewise the course which was ultimately planned from the results of the analysis, instead of being designed for one store, was a kind of master course, comprehensive enough to meet the needs of any one of the seven stores cooperating with the Bureau and flexible enough to permit ready adaptation.

THE DUTY ANALYSIS

Naturally the first step in the study was to make an exhaustive list of the duties which an assistant buyer performs. For the accomplishing of this end, seven sources were used:

1. Experience as an assistant buyer[1]
2. Checking of a list of duties (prepared as a result of this experience) by all the assistants in one large store
3. Observation of three assistants for one day each
4. Interviews with nine assistants

[1] The study was begun by Elizabeth Dyer who had been an assistant buyer and who used her experience as the basis for the first work carried on.

5. Interviews with eighteen executives in various stores
6. Interviews with twelve buyers in three different stores
7. Checking of the final list against the duties found in courses offered by seven different stores

When the preliminary list of duties had been worked out through step one, there followed the task of having them checked to see how many were very generally performed by assistant buyers and what ones could be added to the list already compiled. The result of this checking was the discovery that while the duties of an assistant vary to a surprising degree in the same store and among different stores, basically they are sufficiently alike to permit classification and training built on such classification. Evidently there were assistants who were scarcely more than glorified stock-keepers either in responsibility or in prestige and there were assistants who went to eastern markets and in a few cases to Europe and who were therefore very important members of the store organization. In the middle group were a large number of people who had a moderate amount of power when the buyer was in the department and a much increased responsibility when he was away. Yet after allowing for these differences in standing (all found under the title of assistants) the great majority of separate duties were found to be common to practically all assistants.

The plan of having other duties added to the list was not very fruitful, probably due in part to the fact that the list was already fairly complete and in part to the fact that when a buyer or an assistant saw a large number of tasks already written down, their number tended to inhibit his thinking of others and caused him to feel that he could not contribute anything worthwhile to a list already so extensive. An effort made by a research worker in the store to have all of the assistants on one floor keep a list of the duties which they performed for a week yielded little because the assistants, untrained in that type of diary keeping and busy with other things, failed to keep records that were at all complete or significant. By the time the step was completed, fifty-eight duties had been collected, but most of them must be credited to Miss Dyer's original list.

The third step—that of observing assistant buyers in order to discover other duties—was then undertaken. Three assistants were watched, each for one day. These assistants were carefully selected by personnel heads in their respective stores. It was important for them to be efficient, and essential for them to be willing to have observers. The choice in each case proved a fortunate one and ten duties were added to the list by these observations. Some of them had been implied in the earlier list, but a clearer understanding of what they included proved that they should be stated as distinct tasks.

To be more certain that all possible duties would finally be included, nine assistants were then interviewed. They were asked to check a list (the original one revised and increased by the ten tasks discovered through observing) and they were also asked many questions about their ways of

performing various duties. In talking to these nine people, only two new duties were found, and each one was a task relating to work in a specialized department. After the third interview, new tasks had ceased to appear though rather a large number of methods of performing various activities was gained. Since the assistants had been chosen from different departments, it seemed probable that the variety was great enough to give a fair sampling of the duties performed throughout the store.

To ask assistants about themselves could not be considered sufficient. The opinions of other people were necessary and it seemed important that these people should be executives. Accordingly the following people were interviewed: four merchandise men, three store managers, one sales manager, three advertising heads, one employment head, one receiving head, and five New York representatives or wholesalers. Each of these people was asked certain questions regarding the evidences of and the reasons for the efficiency or inefficiency of buyers and assistants. The talks gave valuable auxilliary information but did not add to the catalog of duties. Attending a series of lectures given about this time by one Pittsburgh store to its assistant buyers resulted in the findings of one additional task.

Meantime it had become evident that instead of working on the assistant's job, the analysis must be enlarged to a study of the buyer's job as well. This was essential for two reasons: (a) in the absence of the buyer, the assistant frequently takes over many duties which ordinarily do not belong to him, and (*b*) the assistant is a potential buyer but he cannot be helped to advance unless an aim can be set clearly before him. This aim is ability to do a buyer's work. Therefore a buyer's work must be defined, and then the assistant can be directed how to run the department better in the buyer's absence and also how to manage a buyership for himself. Moreover such overlapping occurred that the study seemed to promise most if extended to include the buyer's work.

Once more the method used was to ask people to check a list of duties and to add others if they could. The list was the one finally prepared for assistants (seventy-one duties in all). Twelve buyers were interviewed and were asked to indicate whether they, their assistants, or some other people in the store performed the tasks. These buyers were chosen from ten different departments in order to provide a good variety of duties. Talks with them brought out only three new tasks but helped very materially in establishing a division line between the duties of a buyer and an assistant. These items, when added to the list, made a total of seventy-four.

At the same time that the list was submitted to the buyers for checking, several questions were asked:

1. Before going to market, what preparation do you make?
2. Do you take any records (of needs, etc.) with you?
3. How do you know what your best sellers are?
4. How do you know what are the best sellers for your community?

5. Do you re-order when staples have reached a certain number (example, only two dozen in stock, etc.)?
6. How do you know how much novelty merchandise to buy?
7. Why do you discontinue a line?
8. How do you know what new houses and resources to try?
9. How does the resident buyer help you in this?
10. When and how can you go beyond your budget?
11. How can you get more money from the merchandise man?
12. Do you believe in many re-orders? What are the advantages of this? The disadvantages?
13. Can you cancel orders if merchandise isn't selling?
14. To what extent do you have manufacturers make up articles according to your ideas?
15. Do you "shop around" in New York? If so, to what extent?
16. Do you keep a perpetual inventory?
17. How do you push slow sellers?
18. Do you believe in keeping a model stock plan?
19. Do you keep close track of the range of prices in your department?
20. What points do you read about in order to keep posted on various conditions in the economic world?
21. How important is it to be able to judge merchandise?
22. What do you do that your assistant doesn't do?
23. What can a new buyer do in order to improve in buying?
24. When you first started to buy, what information and training might have helped you?

The last step in compiling the list of duties consisted in comparing the tasks found with those mentioned or implied in courses for buyers and assistant buyers of seven different stores. The comparison resulted in the addition of four duties and revealed the fact that the Bureau list contained several tasks not mentioned in the store courses. These duties were accordingly examined to see whether or not they were more than details of other activities. They were judged carefully and were considered deserving of mention as distinct duties. With the addition of four items from the store courses, the Bureau list consisted of the seventy-eight duties given below.

DUTIES OF BUYERS AND ASSISTANT BUYERS

Buying

1. Helps to plan budget by learning policies from Merchandise Man.
2. Finds out about overhead, pro-rating of expenses, etc.
3. Plans expenditures for definite periods of time and for definite kinds of stock.
4. Makes arrangements for extra money for sales, etc.
5. Studies records of past year or season.
   a. To establish price lines.
   b. To determine sizes, colors, etc., to be bought.
6. Makes list of needed articles (from records or from examination of stock).
7. Studies want slips.
8. Decides approximate amount of novelty goods to be bought.
9. Considers where and when to buy, discovering new resources.
10. Selects merchandise.
    a. Out of town, or in town only.
    b. New lines, or staples and fill-ins only.
    c. Independently, or with O. K. of buyer over him.
11. Makes out orders.
    a. With or without O. K. of buyer.
    b. Sends them to office for confirmation.
12. Makes re-orders.
13. Makes special orders.
14. Follows up delays.

15. Cancels orders (for late delivery, etc.).
16. Retails bills.
    a. Sets prices in accordance with store policy.
    b. Copies prices on bills.
17. Handles correspondence.

Receiving

18. Receives goods and checks invoices for number of articles delivered.
19. Examines merchandise for sizes, workmanship, etc.
20. Returns unsatisfactory goods.
21. Sees that merchandise gets through receiving-room.
    a. Sees that marking is correct.
    b. Sees that merchandise is taken to stock-room or to floor.
22. Checks bills against orders to see what goods are outstanding, etc.
23. Checks bills before they are sent to auditing office.

Advertising

24. Secures space in paper for definite articles.
25. Selects articles to be sketched and facts to be stressed.
26. Writes copy or gives facts for copy.
27. Reads proof.
28. Gives information for circulars.
29. Gets window space.
30. Selects articles for window display.
31. Dresses figures for window display.
32. Directs displays in department.

Directing stock work

33. Checks merchandise when loaned and when returned.
34. Orders signs.
35. Directs arrangement of stock on floor.
36. Directs arrangement of stock in stock-room.
37. Watches daily care of stock.
38. Oversees filling-in of forward stock.
39. Records fact that goods have reached floor (in stock book, etc.).
40. Orders necessary goods from other departments (transfer of stock).

Supervising sale of merchandise

41. Sees that preparations have been made for special sales (merchandise, signs, training of salespeople, etc.).
42. Informs salespeople of values of advertised goods.
43. Tells salespeople what articles are in window.
44. Gives merchandise information on new goods.
45. Gives facts to M. O. D.
46. Looks after workroom orders.
47. Keeps record of articles sold.
48. Makes record of slow sellers.
49. Watches competitors (comparative shopping, etc.).
50. Decides on extra help needed.
51. Sees that customers are waited on.
52. Sells.
53. Examines merchandise returned by customers.
54. Handles complaints and adjustments.
    a. In department.
    b. In home of customer (for rugs, etc.)
55. Authorizes credits.
56. Signs credits.
57. Keeps record of returns.
    a. For stock list.
    b. For improvement of selling in future.
58. Has returned goods re-marked.
59. Puts O. K. on any slip floorman might O. K.
60. Helps to trace lost articles.

Handling finances connected with selling

61. Knows legal requirements for department.
62. Directs mark-up (original mark-ups and those made after sales, etc.).
    a. Plans them.
    b. Oversees actual marking.
    c. Records mark-ups in price-change book.
    d. Sends record to office.
63. Studies turn-over figures.
64. Directs mark-downs.
    a. Authorizes them.
    b. Oversees actual marking.
    c. Records mark-downs in price-change book.
    d. Sends record to office.
65. Makes estimates (on rugs, draperies, etc.).

66. Gets sales amounts for the day.
    a. For own information.
    b. For superior.
67. Studies sales sheet sent from office weekly, monthly, etc.
68. Plans for sales promotion.
69. Directs inventories.

Handling people

70. Interviews applicants for jobs.
71. Meets new salespeople, stock-boy, etc.
72. Helps to train new person.
73. Trains all regular salespeople, contingents, sponsor, etc.
    a. Individually.
    b. In groups.
74. Follows up salespeople (tells them sales must increase, etc.).
75. Rates salespeople.
76. Recommends promotions, transfers, etc.
77. Helps to decide on salaries.
78. Puts O. K. on time card for tardies, overtime, etc.

HOW THE TRAINING PROGRAM WAS DEVELOPED

When the list of duties performed by buyers and assistant buyers had been compiled, attention could be turned to the developing of a training program based on these activities. Although the seven means already given had resulted in the collection of a very large file of data on ways of carrying out specific duties, it was necessary to study exhaustively the details connected with performing each task, to determine not only the content of the training course but also the relative stress which should be given to each one. The following means were used to discover the necessary information:

1. Observation and performance of an assistant's duties for a month with the special needs of the course in mind.
2. A trip to the New York market with a buyer.
3. A study of magazine articles and books on the subjects included in the course.
4. Conferences with various store experts, particularly with the controller of one large store.
5. Collection of specific information by twelve students of the Research Bureau for Retail Training class of 1923 as a special assignment.
6. Letters to several stores which were then giving assistant buyers' courses.
7. Interviews in three stores where courses were being given.

It is important to notice that all of these means except 5 and 6 proved very helpful although they necessarily consumed a good deal of time. Step 5, while it brought in some valuable data, fell short of excellence, partly because the explanation of the assignment was not sufficiently clear and partly because some of the interviewing required of the students was at that time too technical for them. Step 6 in many instances showed the usual inadequacy of information gained through correspondence.

Although many of an assistant's duties must necessarily be explained to him chiefly through training on the job, other tasks may be best presented through lectures and discussions. The proportionate amount of time to be given to each item had therefore to be determined. The criteria used were the *relative importance* of a particular duty (discovered through interviews with higher executives and reënforced by the opinions of certain writers in trade journals) and the *relative difficulty* of a duty (determined by asking assistants what things were

and had in the past been hardest for them, by consulting higher executives to find out in what respects assistants repeatedly fall down, and by including the duties which had presented most difficulties to the investigator and might therefore be expected to prove troublesome to inexperienced assistants). The wisdom of including a topic on which few people would be competent to give information was questioned, but this difficulty was not felt to justify omitting any item, particularly since the only way to supply a lack in the training of assistants would be to advertise the need and then let the lack set up a demand for a teacher.

The first form which the training program took was a series of thirty-three outlines for lectures—twenty-two of them on topics dealing with buying, selling, advertising, and finance and the remaining eleven taking up the subject of training subordinates in salesmanship and merchandise information and in the development of personality. The list of subjects is given below. The seventy-eight duties collected in the job analysis are included at various points in the series.

OUTLINE FOR A COURSE FOR BUYERS AND ASSISTANT BUYERS

I. Retail store organization.
II. Store policies.
III. Budget.
IV. Records as guides in buying.
V. Where to buy.
VI. When and how much to buy.
VII. What to buy.
VIII. Terms.
IX. Orders.
X. Receiving merchandise.
XI. Mark-ups.
XII. Mark-downs.
XIII. Turnover.
XIV. Inventory and stock shortages.
XV. Sales figures.
XVI. Expense.
XVII. Advertising.
XVIII. Care of stock.
XIX. Pushing slow-selling merchandise.
XX. Special sales.
XXI. The supervision of selling.
XXII. Returns and adjustments.
XXIII. Department training—stock location.
XXIV. Department training—salesmanship.
XXV. Department training—merchandise.
XXVI. Department training—development of personality.
XXVII. Handling people—showing personal interest in salespeople.
XXVIII. Handling people—forceful leadership.
XXIX. Handling people—securing a smooth-running department.
XXX. Handling people—reprimanding people.
XXXI. Handling people—developing initiative.
XXXII. Handling people—developing dependability.
XXXIII. Handling people—developing courtesy and interest.

These outlines showed the lack common to all skeletons, in this case intensified by the fact that they had been prepared for general use rather than for any one store and therefore they failed to provide sufficient guidance for the person giving the lecture. If trained teachers could have been depended on to handle all the talks, outlines might have proved adequate but since the subjects were so specialized that most stores would probably want to have one talk given by an expert on one topic, a second by an authority on the next topic, and so on, other help was essential. The

need was especially marked because a group of talks by different people must be planned in detail if they are to be welded together with a maximum of coherence and a minimum of overlapping and because the talks would in most cases be given by men expert in their own line but not accustomed to addressing beginners and therefore usually not aware of the necessity for stress on fundamental explanations and of the value of constant illustration and demonstration.

Almost before the outlines were completed, then, there came a request from one personnel director for a plan to accompany each topic—some kind of suggestion sheet for the speaker who might be chosen to handle the topic and who would require assistance both in planning his talk to meet the needs of his listeners and in correlating his information with the facts given by other speakers. These suggestion sheets were therefore worked out according to the following scheme: the headings and subheadings of the outline were put into one column and beside each were placed suggestions for explaining that particular item to the group. For example, part of one suggestion sheet is included here.

HOW MUCH TO BUY

Making large initial purchases

Illustrate, for some line of merchandise, how good prices may be given on large orders.
How does the placing of a large order aid the manufacturer in his arrangements?
Mention an occasion when making a large order was very advantageous; when it was very disastrous.
Point out the saving in labor when a few large orders, rather than a great many small ones, are made.
Show how an extensive selection is possible with large orders.
What is the policy of your store with regard to large orders?

Making small initial purchases and frequent re-orders

Give examples to show how small orders protect a buyer against sudden style changes; against falling prices.
What protection does your store require wholesalers to provide against falling prices?
What departments in your store must watch the size of their orders because of small storage space?
Give examples to show the advantage of having a little money left instead of being bought up to the last penny.
Show how a small stock, if well chosen, is much better than a large one which has been bought in rather a haphazard way.

When the thirty-three outlines, each with its accompanying suggestion sheet, had been prepared, a master training program was complete. For use in a specific store, adaptations would clearly be necessary. Likewise, additional studies, derived from the major course, could be planned as supplements at any time,—for example, buyers' arithmetic, business English, regional studies dealing with markets, and so on.

Because the study has been an extensive one, numerous problems have arisen. The chief of them have had to do with learning the terminology of different retail stores and making questionnaires, check-lists, outlines, and suggestion sheets in language which would mean the same to every one; drawing out store executives in order to obtain just the kind of information desired; finding opportunity for actual performance of assistants'

duties other than those of the most mechanical nature; distinguishing between essentials and confusing details; giving to the different parts of the course the greatest practical significance possible; and making the final plan as specific as would be consistent with a course designed for general use. The success with which these problems have been met is to be put to the test within a few weeks through the installation of executive training courses based on the master plan. Two, and possibly more, of the stores in which the analysis was made are about to make use of the information obtained. The practical value of the study will then be tried out and the points of weakness and of strength will be made known.

Efficiency Tests of Pennsylvania Railroad Personnel

By C. M. Sheaffer, *Philadelphia, Pennsylvania*

Wherever large numbers of men and women are employed, it is necessary for the management to check up periodically to see how well all regulations are being observed. In the railroad industry such a check is imperative, as many lives depend on the strict observance of all safety precautions by those concerned with train movement. About twenty years ago the Pennsylvania Railroad introduced a system of efficiency tests designed to furnish accurate information on the observance of safety rules. This system gradually developed, and in 1910 a uniform practice was adopted on all the Pennsylvania Lines east of Pittsburgh and Erie. Certain revisions have been made from time to time, and in February, 1923, a special committee was appointed to review all details in connection with efficiency tests and observations on the entire Pennsylvania Railroad System. The practice as outlined by the committee was adopted as standard for the System in May, 1923. Mr. Sheaffer, Chief of Transportation, explains in the following article what this practice is and how it operates.

SAFE transportation of passengers and freight is a railroad's first concern. Toward accomplishing that purpose, experience, inventive genius and managerial skill have developed in this country a technique of railroading that is in many respects a marvel to the rest of the civilized world.

As a matter of fact, the whole transportation machine operates so smoothly as a general rule that people have come to regard its performance as commonplace. Little, if any, thought is given to the real wonders of actual railroad operation, the extreme care that must be exercised by an army of employees and the intricacies involved in what looks like a simple service.

One of the most remarkable and yet seldom appreciated facts about American railroad operation is the safety attendant upon the movement of hundreds of millions of passengers every year. One may demonstrate by statistics that relatively a person is safer on a railroad train than in his own home. It is common belief no doubt that this record is accomplished altogether through mechanical and automatic devices but a study of the situation reveals a development of human engineering that is both interesting and instructive.

THE HUMAN FACTOR IN SAFETY

A railroad, in the final analysis, is what the men who compose its personnel make it. No matter how excellent its equipment, its roadway, its facilities and safety devices, the human factor remains an important element in the quality of its service. The highest development of mechanical invention and automatic safeguards cannot wholly dispose of this factor.

Especially is this true as regards the actual movement of trains over the railroad, the safety of which must necessarily depend to a considerable extent on men operating "on their own", beyond the range of continuous supervision.

This inevitable condition and the fact that train accidents—themselves very rare occurrences—are in some cases due to what is called "man failure," have given rise to the necessity for establishing some practical substitute for such continuous supervision. In this respect the Pennsylvania Railroad System has perfected a plan which has been in operation for many years and is noteworthy for its results. Briefly stated, it is an organized effort to prevent train accidents caused by "man failure" through a system intended to insure the *actual* observance of signals, operating rules and other safety precautions.

It is one thing to provide signals, to promulgate rules, to issue safety precautions and to install mechanical devices. It is quite another thing to get them followed and observed. That is why discipline in railroading is of paramount importance. The Pennsylvania Railroad spreads out over thirteen states and the District of Columbia. It employs upward of 200,000 men. It operates more than 6900 trains every day and carries in a year nearly 152,000,000 passengers and about 278,700,000 tons of freight.

About one-third of all the employees are engaged in the actual movement of trains. For long periods the men in charge of trains are out on the road without supervision. Safety requires the strictest observance of the safeguards established for their own and their passengers' protection. Morale and esprit de corps of the highest type are essential. American railroad men have a record in this respect of which they may well be proud.

But with human nature as it is, what further provisions can be made to prevent human failings?

THE PENNSYLVANIA EFFICIENCY TESTS

The Pennsylvania solves this problem by establishing a system of tests and observations to determine whether employees engaged in train movement are *actually observing* the railroad's established regulations and devices.

Purpose

Before describing this system in detail it may be well to point out that it is by no means simply a method of espionage. Such a practice would defeat its own purpose. Every man engaged in train operation knows what these tests are and why they are made. There is no trickery or subterfuge. Every test represents a situation that he may encounter at any time during

his daily run or occupation as an ordinary incident in the performance of his job.

The men who make the tests and observations are themselves practical railroad men, qualified in all the rules governing train operation. On one of the large terminal divisions in the east, for instance, the efficiency inspector is a former conductor of long experience. He is proud of the fact that his friends among the men out on the road have not diminished in number since he left his train to take up his present duties. He is known as one of the squarest men on the division.

In this same connection, it should be understood, too, that when a man "fails" in a test, he gets an impartial hearing before any discipline is imposed. The "failure" is reported to his superior officer and if the result of the hearing is not to his liking he has the right of appeal, under the Pennsylvania plan of employee representation, to a joint reviewing committee on which equal numbers of employees and officers sit, each with the same voting power, a two-thirds vote being necessary to decide the matter.

In other words, the Pennsylvania's system is intended not only to protect the public to the greatest possible extent, but also to protect the individual against unfair practice on the part of those conducting the efficiency tests and observations.

As already stated, the purpose of the system is to insure the *actual observance* of signals, operating rules, special instructions and other safety precautions. To this end the Company has devised what are called "efficiency tests" and "efficiency observations."

Application

The "tests," of which there are fourteen, relate directly to the safe operation of the railroad. On main line divisions the tests are conducted by an efficiency inspector, who has one or more assistants, together with such other members of supervisory forces, assistant train masters, assistant road foremen of engines, assistant supervisors of track and signals as may be necessary. On the smaller divisions all tests are conducted by supervisory officials.

The "observations," of which there are thirty-seven, relate to the proper observance of rules, signals and special instructions. They are made by superintendents, train masters, road foremen of engines, and other members of the superintendent's staff.

All employees whose duties are governed by signals or train rules are subject to the tests and observations.

Each division is required to make a certain number of tests each month. When the tests were first inaugurated about 15 years ago, an arbitrary number was assigned to each main line division and to each branch line division. The number has since been worked out on a scientific basis—the number of locomotives operated and the number of miles they travel. This gives a unit called a road-engine-mile. One test is required for every 300 road-engine-miles. No division is required, however, to make more than 2500 tests a month.

Standard printed instructions govern the kind of tests to be made, how they shall be made, what constitutes a "failure" and the occupations of the employees subject to the tests. For use of the persons conducting the tests or making the observations a small printed form is provided in convenient pocket size, a separate blank being used for each employee tested or whose performance has been observed. These blanks are turned in each day to the division superintendent.

Results

In the division office permanent records are kept, one sheet for each employee subject to test or observation. This system provides a record not only of the employees tested or observed but also of the kind of tests or observations to which each has been subjected over any given period and whether the employee has succeeded or "failed." A "failure" means that the employee tested or observed as to his performance in a particular situation did not follow the prescribed practice.

The results of the tests are classified and totalled for each division and forwarded monthly to the general manager in each of the four operating regions. The general manager in turn reports to the Chief of Transportation of the Pennsylvania Railroad System.

No summary is required of the observations and there is no definite requirement as to number of observations to be made.

It is a tribute to the employees themselves that the number of "failures" reported over a period of many months is relatively insignificant. Results of the tests show consistently as high as 99.9 per cent efficiency on the part of the employees to whom the tests were applied.

The plan is designed to cover not only routine operating conditions, but also unusual situations not ordinarily met by a train crew in the daily run. In carrying out this feature of the system, however, complete precautions are taken to avoid interjecting any element of risk in the conduct of the tests themselves or in their results and to avoid any inconvenience to passengers.

Test procedure

The appended form covering Instructions in Connection with Efficiency tests gives a complete summary of the tests conducted, how they are made, what constitutes a "failure" and the occupations of employees subject to tests.

The manner in which a test is made may be illustrated by the following descriptions.

Test No. 10 (Absence of Markers). Markers are the lights carried on the rear of trains. All trains must carry them, for they are an important safeguard as well as a means of identifying trains on the road. Their absence to a signalman in a tower observing a passing train may indicate that part of the train has broken loose. Test No. 10, therefore, concerns the engineman, the conductor, the flagman, and the signalmen.

In making this test, the efficiency inspector having advised the train despatcher and other interested officials, will notify the conductor and

PENNSYLVANIA RAILROAD SYSTEM

INSTRUCTIONS IN CONNECTION WITH EFFICIENCY TESTS C. T. 685 A

TEST	METHOD OF MAKING TEST	WHAT CONSTITUTES A FAILURE	OCCUPATIONS OF EMPLOYES SUBJECT TO TESTS
1—Home or Advance Signal at Stop and distant signal at caution.	Home signal at stop; distant signal at caution or advance signal at stop with home and distant signal at caution.	If any portion of engine or train passes home or advance signal indicating stop.	Engineman.
2—Home or Advance Signal at Stop (no distant signal).	Home signal at stop or home signal at caution and advance signal at stop.	If any portion of train or engine passes home or advance signal indicating stop.	Engineman.
3—Automatic Signal at stop.	Distant signal at caution; home signal at stop.	If train is not stopped before any portion of engine or train passes stop signal or does not then proceed as prescribed by rule.	Engineman.
4—All other stop signals.	Giving stop signal by hand, flag or lamp or by a fixed signal other than those referred to in tests 1, 2 and 3. This may include dwarf signals at an interlocking by setting up the route, placing other signals governing the movement at proceed and holding the dwarf signal in stop position. NOTE. Observance of flagmen's stop signals and train order signals not to be included in this item.	If any portion of engine or train passes fixed signal indicating stop or if the engine or train is not stopped upon receiving hand, flag, or lamp signal.	Engineman.
5—Signal Lights not lighted.	Light extinguished or obscured on:		
	(A) Distant block signal, either active or marker light; position of arm—proceed or caution—home or advance signal at stop,	(A) If train does not approach home or advance signal prepared to stop.	Engineman.
	(B) Home block signal, either active or marker light; position of arm—proceed. If equipped with a distant signal—distant signal at caution.	(B) If train is not stopped and authority received to pass imperfectly displayed home signal.	Engineman.
	(C) Advance block signal, either active or marker light; home signal at caution and after train passes home signal place advance at proceed.	(C) If train is not stopped and authority received to pass imperfectly displayed signal.	Engineman.
	(D) Automatic block signal; either active or marker light. Distant signal at caution.	(D) If train is not stopped before any portion of engine or train passes imperfectly displayed signal or does not then proceed as prescribed by rule.	Engineman.
	(E) Distant switch signal either active or marker light, switch light extinguished on one or more switches.	(E) If train is not stopped before passing over switch on which light is extinguished and does not approach other switches prepared to stop unless it is known that they are in the proper position.	Engineman.
	(F) Switch signal with distant signal at caution.	(F) If train is not stopped or switch is not examined before passing over it. NOTE. It is also a failure if any imperfectly displayed signal is not reported to the Superintendent as provided in Rule 27.	Engineman.
6—Distant Switch Signal at Caution.	Switch in normal position; distant signal in caution position; switch light extinguished by night; switch signal removed or obscured by day.	If train is not stopped before overrunning switch or the requirements of Rule 27 are not complied with.	Engineman.
7—Permissive Aspect Displayed to Trains that should not accept it.	Display a permissive signal to train that should not accept it.	If train is not stopped or the fact is not reported before proceeding.	Engineman.
8—Fusee.	Place fusee on the track on which train is approaching.	If train does not stop; if fusee is not removed; if the train does not proceed with caution after fusee has been removed.	Engineman.
9—Torpedo.	Place torpedoes where view is obstructed either by curve or atmospheric conditions.	If speed is not reduced so that train can be brought to a stop by signal or short of any obstruction within range of vision.	Engineman.
10—Absence of Markers.	Make necessary arrangements with Train Dispatcher and then remove markers.	Of signalman and trainmen interested if they do not observe absence of markers and report to Superintendent.	Engineman Conductor. Signalman.
11—Blue Signal.	Place a blue signal at one or both ends of an engine, car or train.	Of trainmen if they couple to, or move an engine, car or train thus protected; or place other cars so as to intercept the view of the blue signal without notifying the workmen.	Engineman. Conductor, Trainman.
12—Flagman's performance.	Observe action taken by flagman when flag protection is necessary.	Not having and using the required signals or not going back immediately a sufficient distance to insure full protection.	Flagman.
13—Speed under permissive signal (exclusive of other observations as to speed reported on C. T. 685 B).	Observe speed of train under permissive signal by use of stop watch over a measured distance on a curve or where view is obstructed.	If speed is not reduced so as to be able to stop within range of vision.	Engineman. Conductor.
14—Speed of train around curves (exclusive of other observations as to speed reported on C. T. 685 B).	Observe by use of stop watch the speed over a measured distance.	If speed restrictions are not adhered to.	Engineman. Conductor.

crew of a certain train to remove their train markers between certain points, and passing certain signal towers.

One of the regular duties of a towerman is to watch passing trains for markers. If a train passes his tower without markers he must notify the superintendent immediately by wire and he must also communicate with the next signal tower. The man in

the next tower is then required to give the engineman of that train, as it approaches him, a signal indicating that his train is without markers. The engineman having been notified in advance of the test simply acknowledges the signal by three blasts of his whistle and keeps going. The train crew, also having been notified in advance, disregard the engineman's three blast whistle, and either restore the train markers or leave them off until the test is completed. If it were not a test the second towerman's signal would bring the train to a stop and the engineman's three blast whistle would notify the crew that their train was without markers. Meanwhile all those concerned with that train's movements would have been advised of the situation.

As long as the train continues without markers the same thing occurs and a steady stream of messages comes in to the superintendent's office like this: "No. 228 passed RS without markers"; "No markers on 228 passing K tower", etc. Any signalman failing to report the absence of markers on that train "fails" in an efficiency test. Any engineman failing to acknowledge the towerman's signal indicating that his train has no markers has "failed" in the test as applied to him. If the markers have been left off except under orders required in making the test, the conductor of the train has "failed" in an efficiency test. This one incident, therefore, shows how it is possible to test any number of signalmen, enginemen, conductors and flagmen, and ascertain how a number of safety precautions are observed.

Test No. 14 (Speed of Train Around Curves). This test is made either by the inspector riding a train or by means of a stop-watch over a measured distance. A recent test of this kind was made at one curve and not one out of twenty-nine trains passing in three hours failed to observe the proper speed regulations.

The efficiency inspectors and their assistants ride trains a great deal, often in the cab of the locomotive. In the course of a short run they are in a position to make many tests of various individuals and situations. For instance an inspector may observe by test No. 12, whether the flagman is properly protecting his train against trains following; whether the engineman observes caution and stop signals; whether the engineman and fireman repeat signal aspects to each other across the cab as a check on the other's observance; whether the train is carrying the different color markers required when traveling on a freight track as against traveling on a passenger track; whether the train is carrying the proper classification lights or flags on the front end to indicate whether it is running in sections or is a regular or extra train. While they are riding trains, these inspectors are also in a position to observe how well the crew is carrying out operating rules and special instructions, for instance, making proper announcements of stations, or of the cause of any delay; permitting aisles in cars to be blocked with baggage; remaining with their train at station platforms until all pasengers have alighted.

Observations

The various situations covered by the observations may be indicated by the following summary of some of the principal observations which are required to be made and reported by the supervisory officials:

Enginemen's observance of flagman's signal.
Leaving or arriving ahead of time.
Car doors not properly closed.
Conformity to speed regulations.
Rule 7. Signal appliances in good order and ready for immediate use.
Rules 8, 14, 16 and 25. Proper use of signals.
Rules 19, 19A, 19B, 20 to 24A. Proper display of markers and classification signals.
Rule 102. When cars are pushed by an engine, a trainman to take a conspicuous position on front of leading car.
Rule 104. Switches left in proper position after having been used.
Regs. 703, 707 and 718. Conductor comparing time with engineman.
Road and terminal air brake test.
Dimming of head lights.
Conformity to regulations as to explosives and inflammables.
Whistling to call attention to signals carried.
Display of train order signals.
Rule 3. Comparing watches with standard time.
Rule 9. Night signals displayed from sunset to sunrise and during the day when weather conditions obscure day signals.
Positive identification of trains at meeting points.
Rule 100. Brakeman taking the place of flagman when latter goes back to protect trains.
Rule 102A. When shifting over unprotected crossings, trainman to be stationed on crossing to warn persons using same.
Regs. 703, 707 and 718. Examination of Bulletin Boards by conductors and enginemen.
First aid equipment properly distributed and in proper condition.
Reporting of trains.

The whole system covers every conceivable situation in which the failure of a man to follow the prescribed practice might result in accident. It affords an opportunity, also, to determine whether special instructions issued from time to time are being properly observed. In the course of a month practically every man on a division whose duties relate to safe operation is covered and every one of the 14 required tests is conducted many times.

The following table showing the general mangers' reports of efficiency tests for the month of January, 1924, as compiled in the office of the Chief of Transportation, affords some idea of the large number of tests conducted and the performance of the men concerned:

REGION	TESTS MADE	NUMBER OF FAILURES	PER CENT EFFICIENCY
Eastern	31,342	18	99.9
Central	19,919	25	99.9
Northwestern	4,162	2	99.9
Southwestern	3,601	4	99.9
Total for system	59,024	49	99.9

The value of such a program as that established on the Pennsylvania Railroad has long ago been demonstrated. Summarizing briefly its principal advantages, it may be said:

1. The management knows with reasonable certainty whether the safeguards which it has built up around its service are being actually observed by the employees responsible for their observance. Under conditions governing railroad operation, no other practical means of determining this systematically and continuously has been devised.

2. The plan encourages employees to strict observance of safe operation by building up for the individual a permanent record of efficient performance under all sorts of operating conditions.

3. The public is assured of a greater degree of care for its safety than would otherwise be possible.

Industrial Accident Prevention as a Personnel Problem

By T. T. Read, *Safety Service Director, Bureau of Mines, Department of the Interior*

When organized work for the prevention of industrial accidents was initiated, some fifteen or more years ago, many people doubtless believed that they were undertaking a task that would be easy of accomplishment, once they had put their minds upon it. This was partly due to the belief that if we can only pass a law or set up a system designed to correct some evil it will forthwith be corrected; but it was also due to the observation that many, if not most, accidents are due to carelessness. Why anyone should suppose that the overcoming of carelessness would be easy is incomprehensible; it is an insidious enemy and all the more difficult to overcome because its consequences frequently lack immediate moral significance.

INCREASING IMPORTANCE OF THE PERSONNEL PROBLEM IN INDUSTRIAL ACCIDENT PREVENTION

Fifteen years of experience with organized work to prevent the occurrence of industrial accidents has thrown much light on the many and perplexing problems involved and has brought about an almost entire change of viewpoint. In the beginning there was a somewhat general belief that most accidents had their origin in dangerous physical conditions existing in works or mines, but this proved to be only partly true and, insofar as it existed, relatively easy to correct. There are three reasons why owners and operators are usually ready to correct dangerous conditions that exist in and about their properties, once they have been made aware of their existence. The first is the cost of workmen's compensation; there can be only one answer to the question, "Is it wise to incur the risk of having to pay thousands of dollars in compensation if a fatal accident results because of failure to spend a few dollars correcting a dangerous condition?" The second is the cost of compensation insurance; the insurance companies have a definite rating schedule and the continued existence of dangerous conditions means the payment of a higher insurance premium. The third reason is the existing wage rates; operators know that men do less work while operating under unsafe conditions and that unsafe conditions are therefore a source of constant loss.

The really difficult problems of accident prevention have proved to be personnel problems. Investigations show that more than two-thirds of the industrial accidents could not have been prevented by anybody except the persons incurring the accidents. Perhaps the most baffling personnel factor is the problem of irrationality. Safety magazines are full of stories of workmen who deliberately remove from machines the safeguards that have been placed there to prevent their being injured.

THE HUMAN FACTOR IN COAL MINE ACCIDENTS

Use of safety lamps

Everyone is horrified to read of a coal mine explosion where scores, perhaps hundreds, of miners are killed; and the reader wonders how such things can continue to occur. As a matter of fact it has happened that when the management of a coal mine attempted to introduce the use of safety lamps (one of the principal means of preventing such explosions) the miners struck to prevent their introduction. In rationalizing such a course of action, a considerable variety of reasons are, of course, advanced but the really fundamental one seems to be that safety lamps are heavier and less convenient and do not give quite so good a light as an open flame. The problem is to convince the miners that it is better to submit to a slight inconvenience every day in order to reduce the hazard of a possible sudden and violent death from explosion. This is not so easy as it might seem, for the chances that a coal miner will meet death from this cause in the course of a working day are about one in a million and he not unnaturally balances the certainty of the slight discomfort against the rather remote possibility of the fatal outcome. If only the individual miner were involved he might be justified in concluding that he is warranted in taking this chance but since an explosion usually involves the lives of many persons who had no part in causing it, a moral question is involved.

Dust barriers

As another example of how accident prevention is essentially a personnel problem we may cite the dust barriers that the Bureau of Mines recommends as one means of preventing a local explosion from spreading throughout a mine. When these were first used in this country the miners had no faith in their efficiency and expressed their disapproval by putting the dust barriers out of commission, though they did not interfere in any way with the comfort and convenience of the miners. After experience had demonstrated that the barriers really would prevent an explosion from spreading throughout a mine the attitude of the miners toward them changed and now anyone caught interfering with a barrier in a mine where they have demonstrated their usefulness would meet summary punishment from his fellow workmen.

Timbering

Nearly half the deaths in coal mining are caused by coal or rock

falling on the men underground. The prevention of such accidents is almost wholly a personnel problem —a problem of training and attitude. There are two standard methods of preventing such falls; sticks of timber are placed to support the overhead material and loose fragments that seem likely to fall are taken down. In blasting down the coal, timber that is already in place is sometimes knocked out, and should be replaced before any other work is done. But the miner is paid on the basis of the number of tons of coal he gets out; it is only when an excessive amount of time is required in setting timber that any allowance is made for it. Timber is quite expensive and the mine management naturally does not desire to have it used where it is not really required, so there is an arrangement whereby the miner can have all the timber he needs, but the time spent in setting it is at his own expense. This makes it possible for the miner adequately to safeguard his life by its use, without encouraging him to use it unnecessarily and wastefully. But in the borderline cases where it is a question of expert judgment as to whether or not it is required, the miner has the option of taking a chance that he will be safe without setting timber or taking down a loose piece of roof or side. Discouraging such chance-taking is a very real personnel problem for which as yet no satisfactory solution has been found, although various methods have been proposed. Five times as many deaths result from this cause as from explosions, and there does not seem to be any preventive measure that does not involve working through the individual miner.

Transportation

Fatal accidents in connection with transportation underground are next in importance to those just discussed and many of these also are clearly personnel problems. In some instances death results from the breakage of equipment or other causes beyond the victim's control, but in a large percentage of cases it results from the injured man's doing something that he knew perfectly well he should not do. Jumping on or off a train of cars while it is in motion is only one of a variety of causes of fatal accidents which represent failure of human judgment in a critical situation.

METHODS OF ACCIDENT PREVENTION AND THEIR BY-PRODUCTS

The personnel methods of accident prevention are too well known to need extensive comment. Posters, motion pictures, safety rallies, membership on committees or safety organizations, rewards to groups for low records in lost time from accidents, first aid competitions, and a variety of other methods are all directly intended to arouse in the individual a positive personal intention to avoid accident. These, of course, must be supplemented by educational work to teach what are the real causes of accidents and how they may be avoided.

There are some peculiar by-products of such methods that are of

interest. It frequently happens that where an indirect means is taken to an end the tendency is to substitute the means for the end. One of the commonest methods used is to carry on a continous competition between different divisions of a plant, or different plants of a single company, to see which has the least lost time from accidents. There are authenticated cases where, when a man has broken his leg, his colleagues have fixed him up in a rolling chair and wheeled him back to his working place the next day, so that an accident that would normally cause sixty to ninety days' lost time would show in the records as not having caused any lost time at all. The attention has here been diverted from preventing the breaking of the man's leg to the preventing of lost time on the official records.

THE REAL VALUE OF RESULTS

The amount of thought, attention and expenditures of funds on industrial accident prevention in the past decade is really very large, and it is a fair question to ask why a greater degree of success has not been attained. There are a variety of possible explanations, and one might be that too much attention has been devoted to the making of records. The compensation paid for a fatal accident is usually on the basis of 6000 days' lost time, but this is a mathematical relation for compensation purposes, rather than a social one. A fatal accident to a working man is an irreparable loss to society and more especially to his dependents; 6000 lost working days is a mathematical quantity of enormously less significance. In the course of a year 2000 men may each take 3 days off, one at a time, to go to picnics, hunting, etc., with perhaps a positive gain—certainly no great loss—to themselves and society; yet the two quantities of 6000 lost working days stand as of equal importance on the record. In striving for records it is necessary to remember constantly that the real aim is the preventing of injury and loss through accidents.

The principal reason why the number of accidents prevented seems so small in proportion to the amount of effort devoted to preventive work is, of course, the same as the explanation why crime is prevalent in the United States, although there are in this country over a quarter of a million religious edifices in which the practicing of virtue and the refraining from crime are constantly being preached. As a matter of fact, crime is relatively infrequent and so are accidents, and efforts completely to eliminate both encounter the mechanical difficulty that attaches to the elimination of any element of low frequency; if there are only two or three wild ducks on a marsh it is much harder to shoot one of them than if abundant flocks are present.

In conclusion it may be said that the problems of accident prevention that are independent of the personal equation are not especially difficult; the personnel problems of accident prevention are not only the hardest to solve but are the principal elements in this laudable and difficult work.

News Notes

COUNTING THE COST OF PERSONNEL WORK

Measurements of the cost of personnel activities and of the returns obtained from such expenditures formed the subjects of the two main reports presented at the Swampscott conference of the American Management Association on September 19 and 20. An admirable report on costs was presented by Royal Parkinson, of the American Optical Company. This report summarized statistics obtained by a committee of the Associated Industries of Massachusetts. The cost of wages and salaries, materials and incidental service, space and equipment, were tabulated for such activities as employment, health, accident prevention, recreation, dining service, plant papers, benefit associations, insurance, pensions and housing. Data from a large number of Massachusetts industries were combined into four groups according to size of plant, in order to facilitate comparison. The discussion of this paper brought into prominence two questions of method: (1) are annual personnel costs better expressed in percentages of payroll expenditures or in dollars per employee? (2) What constitutes overhead properly chargeable to the personnel budget? All agreed that personnel costs should include materials, incidental service, space and equipment used by the personnel department, but there was protest against including a percentage of the salary of higher officials and other general overhead. It is hoped that the proper committee of the American Management Association may reach a decision on these questions and issue an authoritative statement so that statistics of personnel costs may in the future be uniformly computed and illuminating comparisons made.

Methods of measuring the results of personnel effort were presented by Dr. W. W. Charters, of the Research Bureau for Retail Training. Two types of measurement were described and illustrated. Type A, the "before and after" method, makes a statistical comparison of conditions at the beginning and at the end of the special personnel effort whose effectiveness is to be evaluated. This type of study is applicable to the measurement of results of safety campaigns, training courses, changes in methods of supervision, remuneration, etc. Type B, which may be called the "method of equivalent groups," is also applicable to the measurement of the results of these personnel efforts. When this method is used, the comparison is made of two groups of employees which are the same in all essential respects excepting that the personnel effort to be studied is applied to only one of the groups. While sometimes more difficult to administer, the results are often more free from ambiguities than measurements of type A. Although Dr. Charters corresponded with many members of the Association, they had supplied him with only about fifteen good examples of the use of either of these methods of evaluating the effectiveness of specific personnel activities, so his report constitutes essentially an illustration of method.

In the discussion, it was pointed out that many values resulting from effective personnel efforts are intangible and not measurable. Nevertheless it was conceded that measurement of results wherever possible should be undertaken, not only in order to have impressive graphic and statistical data for presentation to higher executives and boards of directors, but also in order that a study of these data in detail may enable the personnel executive himself to see more clearly the strong and weak spots of his program.

Leaders of the discussions were Dr. R. S. Quinby, of the Hood Rubber Company, C. R. Dooley, of the Standard Oil Company, and Dr. W. E. Hotchkiss, of the National Industrial Federation of Garment Manufacturers.

Arthur H. Young, of Curtis, Fosdick & Belknap, gave a stirring address in which both the measurable and the non-measurable results of sound industrial relations policies, safety, insurance, pensions and other personnel activities were richly illustrated.

Professor J. G. Callan, of Harvard, also gave an address in which industrial relations activities were placed in a broad perspective with reference to recent trends of industrial and social evolution.

The conference was arranged by Dr. W. J. Donald and presided over by the President of the Association, Mr. Sam A. Lewisohn.

The two major reports presented at this conference were illustrative of the policy of the American Management Association in seeking a solid factual foundation for the solution of personnel problems.

COMING EVENTS

The Production Executives' Division of the American Management Association will hold a conference on "Administration of Employee Representation Plans" at the Hotel Winton in Cleveland, November 13 and 14. The Office Executives' Division will meet in New York on December 10 and 11 to consider the report on "Salary Administration." The annual convention of the American Management Association is tentatively scheduled for the last week of January at Philadelphia.

At the meeting of the Taylor Society to be held at the Engineering Societies Building in New York on December 4, 5, and 6, several of the subjects to be presented will be of interest to readers of this Journal, and to these Dr. Person extends a special invitation to be present. "The Content of a Course on Management," "The Technique of Management Control," and "Industrial Psychology" will be discussed.

The National Vocation Guidance Association will hold its annual meeting in Cincinnati on February 18, 19 and 20.

At the meeting of the American Psychological Association to be held in Washington the last week in December, one session will be devoted to industrial psychology. Among the speakers at this session will be Mr. Henry S. Dennison, whose topic will be "What Industry Expects from Psychology." At the same time, the American Economics Association will be meeting in Chicago and several papers bearing on employment and other personnel topics will be presented.

Book Reviews

OUTLINE OF PSYCHOLOGY

By William McDougall. New York: Charles Scribner's Sons, 1923. Pp. xvi + 456

REVIEWED BY HENRY C. LINK

Although psychology has formally separated itself from philosophy, and laid claims to being an independent science, it seems still to have one foot firmly planted in the field of speculation or philosophical controversy. Professor McDougall immediately reminds us of this fact by asserting that there are two approaches to the study of psychology, that of mechanistic science and that of "the sciences of mind, which regard the process of purposive striving as radically different from mechanical sequence." Although his book is intended to introduce the student to psychology, it is primarily concerned with defending the second approach. As a result, the reader is overwhelmed with a mass of controversial material, treated in a scholarly but highly contentious manner, and expressed in language which too frequently indicates a religious fervor rather than a scientific disinterestedness. (See particularly pages IX, 26, 27.) The student is introduced to many of the doctrines of psychology, including McDougall's own, but to practically none of its scientific technique or concrete achievements.

Since the author has chosen this ground, there remains little choice to the critical reader but to accept it as his basis of criticism.

McDougall's fiercest polemics are directed against the mechanistic type of psychology, which attributes all mental life to mechanical interactions and which he designates by such terms as atomic, schematic, mosaic, quantitative, simplified, etc. Behaviorism, as represented by Watson, he regards as probably the worst type of the mechanistic psychology—"a most misshapen and beggarly dwarf." Against all interpretations of this type, he makes this eloquent plea: "Must there not be some flaw, some ill-founded premise or assumption, in the argument which leads to this conclusion; a conclusion which runs counter to the teachings of the moral leaders of all ages; which represents man as no more capable of creative activity or of self-determination than the humblest animal or the crystal in the test tube; which regards the Bible, or the works of Shakespeare, of Beethoven, of Newton, as fortuitous concourses of atoms, whose arrangement in space is due to mechanical processes of natural selection no other than that which sorts the pebbles from the sand upon the beach? . . . . Let the beginner in psychology who hesitates at the brink of the slope that leads to materialism and a rigid determinism . . . . look upward and he will see the serene figures of Charles Darwin, and Newton, and Faraday, of Herman Lotze, of Leibnitz and Plato and Wordsworth, and of all the great poets, an august company of great men who refused to lay intellect to rest upon a pillow of obscure ideas, whose voices still ring down the ages, insisting that man is more than a mechanism and may yet be master of his fate."

It is easy to share McDougall's irritation with some of the recent interpretations of psychology in terms of mechanism. As soon as an investigator has discovered some apparently mechanical aspect or principle

of mental life, he seems compelled to advance it as an explanation of psychological facts in their totality. Thus, Holt, having hit upon the mechanical principle of action and reaction, as applied to behavior, presents us with a book on the mosaic of consciousness. Loeb, having partly isolated certain mechanical behavior elements which he calls tropisms, immediately jumps to the conclusion that "Our wishes and our hopes, disappointments and sufferings, have their sources in instincts, which are comparable to the light instinct of the heliotropic animals." A few additional discoveries of the mechanism of the glands makes inevitable a far-reaching treatise on how the glands regulate human personality.

This phenomenon, however, is by no means limited to those who interpret all psychological facts in mechanistic or quantitive terms. It is a phenomenon as common as thought itself and as old. Indeed, the history of thought, as every student of philosophy should know, is made up largely of attempts to interpret the world of matter or of mind in terms of a few simple ideas or principles. The concept of God, the idea of a first cause—whether mechanical or spiritual—the Pythagorean numbers, the logos, the nous, the atoms, Descartes' "I think," the catagories of Kant, Fichte's will to believe, Spencer's principle of self-preservation, and of diversity, Darwin's natural selection, that most devastating of all abstractions, Hegel's the Idea itself, —these and many other examples might be used to illustrate this common phenomenon of thought.

McDougall's approach to psychology is simply another example of the mental process which he condemns in those who carry the mechanistic interpretation of psychology to extremes. He also attempts to explain all mental life in terms of a few simple ideas or elements, namely instincts. The chief difference between McDougall and those whom he condemns is that the instincts which constitute his premises or explanatory principles, are defined as broad, generalized forces; whereas, the mechanistic psychologist begins his story with forces, that, by hypothesis at least, are definitely defined and quantitatively stated. Another aspect of this difference is that the mechanist becomes more and more indefinite in his explanations the further he gets away from his definite first principles (for example, the glands and personality, tropisms and more complicated behavior); whereas, the further McDougall advances in the description of his indefinite instincts, the more specifically does he explain individual and social phenomena, (for example, in his *Social Psychology*, McDougall attributes the growth of large cities to the gregarious instinct). This fact alone should make us suspicious of the validity of McDougall's approach, and this suspicion should be further enhanced when we remember that in *Social Psychology* he explained all psychological phenomena very aptly with eleven fundamental instincts, whereas, in the present book, he does equally well with thirteen. Indeed, he could explain the facts of psychology with eight or nine instincts and whether he used four or forty, the net result of his deductions would be the same.

McDougall's approach to psychology, therefore, is in the nature of philosophic speculation and leads directly away from psychology as a science; for if there is anything distinctive about science, it is the attempt to link definite causes with definite effects, and to describe facts, no matter of what kind, in quantitative, measurable terms. His distinction between mechanistic psychology and purposive psychology is of interest from a philosophical point of view, representing, as it does, two well known types of philosophical speculation. It does not, however, exhaust the avenues of approach to the study of psychology. The student may apply to the study of mind the objective or quantitative technique characteristic of all science, and, at the same time, be either a mechanist or an idealist so far as his beliefs and speculations are concerned. Because the chemist or physicist deals with elements and the quantitative formulae of their relationships, it does not follow that he is a materialist or a pure mechanist. And because an as-

tronomer can measure the paths of astral bodies so accurately that he can predict within a few minutes the appearance of a disturbing element like a comet, this does not mean that he is devoid of a belief in a Universal Purpose or in his ability to be master of his fate.

"The unity of all science," says Karl Pearson, "consists alone in its method, not in its material." Professor McDougall's dilemma arises from his failure to distinguish between method on the one hand and beliefs as to the ultimate character of the material itself on the other. Psychology is a *method* of studying the manifestations of mind, and, insofar as it is a science, this method is quantitative or mechanistic in the same sense that the methods in other sciences are. Thus, the psychologist may be a mechanist or a behaviorist in method, and as such must be judged by the concrete results which his method produces.

That this method has produced fruitful results in recent years, few will deny. That it has also led some psychologists into psychological romancing is equally obvious. But speculations of the mechanistic type and speculations such as McDougall's may fairly be said to cancel each other. There remains then the psychology of the scientific method—call it what we will—and a growing quantity of its concrete achievements.

PLEASURE AND BEHAVIOR

By Frederic Lyman Wells. New York: D. Appleton & Company, 1924. Pp. xvi + 274

Reviewed by Arthur W. Kornhauser

This book is written for persons who have no knowledge of psychology. It is decidedly popular both in style and content. A considerable part of the discussion is given over to elementary ethical considerations and to interesting illustrations of behavior in everyday life. The psychological framework on which the examples are arranged is startlingly simple.

The central thought can be very briefly summarized: People have a few fundamental urges or instincts which insistently seek expression. The realizing of these urges is pleasurable; their thwarting is painful. Happiness and success are determined by what one gets from life in terms of pleasure-value, that is, in terms of instinct satisfactions. "The urges yielding the major pleasure-values of the world are the economic, the erotic, and the social." In addition to the pleasures from these three fundamental urges, other pleasure-sources come into being indirectly through being associated with the major instincts. In certain activities there is also "an inherent pleasurable quality, generally sensory, and hardly further reducible." Most of the book consists of illustrations of these several sources of pleasure.

Perhaps it is unreasonable to ask for critical treatment of a topic in a book avowedly intended for popular consumption. It nevertheless does seem unfortunate that the reader should once more be given the same old instinct-explanations in a form little affected by the vigorous criticism of the past few years. It may well be questioned how valuable this knowledge of psychology is, which leaves one with an oversimplified and one-sided view of behavior. Certainly books like Dewey's *Human Nature and Conduct*, Josey's *Social Philosophy of Instinct*, and Watson's *Psychology from the Standpoint of a Behaviorist* will continue to be needed as antidotes.

The first chapter of *Pleasure and Behavior* contains a very simple general description of mental organization in terms of adjustment of the individual to his world. In a few pages the centrally important con-

ceptions of a functional psychology are skillfully stated in a way that will be clear even to a complete novice. The book then enters on its main task of discussing the sources of pleasure and pain and the manner in which the instinctive energies find expression. In the elaboration of the principal theme, the widest variety of topics come up for consideration,—bodily versus mental pleasures, the psychology of salesmanship, conceptions of heaven and hell and their place in religion, the evolution of barter and economic society, the distribution of wealth, vocational adjustment and the use of psychological tests, trends in marital relations, types of political and economic organization, the individual in relation to society, the nature of good and evil, a modern interpretation of the decalogue, the nature of emotions, inferiority complexes, intelligence levels and intelligence testing, day dreaming, the factors in success, and the evaluation of nations and civilizations. The treatment of many of these matters is necessarily superficial; in no case is it particularly novel or penetrating; usually it is sympathetic and in line with current common sense and "approved" views.

The serious student of psychology will find little in the book. The practical man seeking facts and specific information will find less. The general reader, however, is sure to derive stimulation from some of the points of view and to find the illustrative materials highly interesting. But the book is one to be lightly read, not one to be studied.

PSYCHOLOGICAL TESTS IN BUSINESS

By Arthur Kornhauser and Forrest A. Kingsbury. Chicago: The University of Chicago Press, 1924. Pp. 194

Reviewed by Grace E. Manson

"The chapters in this book attempt to state the main facts about tests, test methods and test accomplishments, in the field of business." "Many of the statements of the book will seem overcautious to people whose hopes have run high concerning tests. But there is need of caution." These two statements made by the authors in the preface are a key to the content and spirit of the book. Kornhauser and Kingsbury have given us a work of real value in that they have collected and made available much of the research work done on tests in business, and even more noteworthy is the fact that they have created an attitude which is scientific and stimulating. All persons interested in applied psychology, teachers, business men, college students and the psychologists themselves, should read this book in order to get the test movement as applied to business in true perspective.

The volume consists of six chapters. In the first chapter, The Nature of Psychological Tests, the authors discuss the purposes and uses of tests. They also present on page 20 a very usable functional classification of tests. Throughout the remainder of the book care is taken to distinguish between tests of proficiency, aptitude and character.

Chapter II is entitled Scientific Method in Constructing Psychological Tests for Business. Here the generally accepted methods of making and standardizing tests are reviewed. The exposition is clear and crisp. The authors appreciate the many difficulties besetting the research worker and disclose them to the reader. The section on job analysis and test construction is somewhat disconcerting. For example, we find on page 52 this statement: "Without attempting to enter into a discussion of the nature and

usefulness of job analysis in general, we would point out merely that these studies of jobs rarely contain the sort of information that is likely to aid the psychologist." Then on page 55, "Usually, in other words, tests to be tried out can be better chosen through clever "hunches" based upon wide experience and keen insight than they can be through what appears superficially to be a more finished and precise scientific analysis." One wonders why. The fact that "in actual practice results have been obtained almost entirely by the non-analytic procedure" is hardly a valid argument, especially where the low correlations between tests and their criteria of success reported in later chapters come to mind. The divorce between job analysis and test construction hardly seems a necessary one.

In Chapter III the authors report on tests for office occupations and in Chapter IV on tests for non-office occupations. The material is handled in just about as illuminating and systematic a manner as the diverse purposes and methods of the authors of the original articles would permit. It is hoped that the realization of the necessity for compilations of research work done in the same general field will lead more authors to make their journal articles more definite and systematic. The critical reader demands something more tangible to go on than the mere report that results were satisfactory or that there was "a fair degree" of correlation.

The reviewer also wishes that the authors had seen fit to put bibliographies at the end of each chapter, or at least at the end of the book as Hollingworth did in his *Judging Human Character*. Such devices make the volume more usable as a reference book.

Chapter V shows the place of tests in the personnel program, and indicates their relation to employing, firing, training and turnover. Chapter VI, The Outlook for Tests in Business, is an excellent closing chapter. A paragraph from page 167 will give an idea of the authors' keenness, frankness, and optimism. "Industrial tests are still in the experimental stage. But they have proved worth experimenting with. A scientific technique has been well established. A few definite general principles and a considerable number of facts of more restricted scope about the selective value of tests have been proved. What we need now is to accumulate, with the aid of this technique, a much larger body of facts. We need negative as well as positive facts. We need to know also the relative value of selective methods other than tests. We need to know what tests and methods fail to select as well as what ones succeed; and we need to know the relative degree of their success. We know something about selecting suitable employees for a considerable number of occupations, and a great deal concerning a few. But about most occupations we know little or nothing of scientific worth."

MANPOWER IN INDUSTRY

By Edward S. Cowdrick. New York: Henry Holt and Company, 1924. Pp. x + 388

Reviewed by L. G. Andrews

There is quite obviously a place for an introductory volume on labor management such as *Manpower in Industry*. One sentence in the author's introduction gives his aim in writing the book: "To present the underlying principles of human relationships in industry, together with the more important of the methods which have been used in dealing with the practical problems of personnel administration." For his readers, to quote again, "He has had in mind the needs of the business executive and of the director of industrial relations, as well as those of

the increasing number of students, in college and out, who are seeking guidance toward straight thinking on the vitally important subject of labor."

The first chapters of the book give us the historical background of labor. The growth of class consciousness is traced from the emergence of the laboring class, with emphasis of course on the period since the industrial revolution. The development of labor organizations during this period is briefly touched upon. Having given this setting, the author takes up the modern labor problems and the current methods of handling them. The employment function, introducing the laborer to his work, industrial training, safety and welfare work, community and social problems with relation to the worker, the settling of disputes and maintaining a contented and efficient working force, the typical forms of employee representation: all of these fundamental subjects are introduced as well as the equally important ones of wages, insurance, profit-sharing, benefit associations, stock participation, and savings plans.

This volume takes up one subject which does not usually receive attention, that is, the place of the salaried worker in the industrial scheme. The clerk has not been much discussed in industry for the obvious reason that there has been an oversupply of clerks. Modern management cannot, however, dismiss any group from consideration on that ground, and in the chapter on the salaried employee the author tells why this class does present a real problem. Another subject here treated which has not claimed much attention from previous writers on personnel is the housing problem. Housing and home conditions have much to do with the morale in a plant. The firm which places a sufficient number of economical homes at the disposal of its workmen has gone a long way toward solving the turnover problem.

The new immigration law recently passed by Congress will greatly lessen the flow of foreign laborers into our industrial plants. The author has touched on this in his discussion of sources of labor-supply and, while this law had not then been passed, he had anticipated its results in speaking of the increasing restrictions on immigration. This new problem will loom large during the next few years and European labor is already being supplanted in industry by the Negro and the Mexican. The basic solution undoubtedly lies in a greatly increased use of labor-saving machinery.

Reading references in this volume are, for the most part, to standard works, of which Groat and Hoxie on organized labor, Tead and Metcalf on personnel, and Bloomfield on industrial relations, are typical.

The reader who expects to find the subjects in this volume developed at length will be disappointed. The treatment is elementary and fuller discussion must be sought in more specialized works. One wishes at times that the author had been a little more conclusive in his treatment of some of the subjects. But he has given a bird's-eye view of current practices in the handling of personnel problems and that is quite evidently all that he intended.

THE TECHNIQUE OF EXECUTIVE CONTROL

By Erwin Haskell Schell. New York: McGraw-Hill Book Company, 1924. Pp. x + 133

REVIEWED BY DAVID R. CRAIG

In the words of its jacket, "this book offers a practical and suggestive analysis of the problems which confront the executive in his relations with his associates and subordinates." The author adds, in the preface, that "it is intended as a manual

or guide to executive straight-thinking. It does not aim to draw arbitrary conclusions or to determine inflexible standards. Rather it suggests and stimulates new avenues of reflection, and aids in the building of an executive method, best suited to the unique capacities of each personality." These two descriptions are quite accurate.

The author begins by describing the executive's job. The executive "is responsible for the execution of work performed by others" (4) and his major task is "the organization of the will of his employees" (8). To do this work the most important traits which an executive should possess are "an innate interest in, and affection for people; strength or power of personality; and a scientific trend of mind." In the second chapter the tools with which the executive works are described. "The executive's tools are found in certain qualities of disposition which, if reflected in his conduct, will produce certain definite responses in his employees" (14). There are stimulating tools, such as enthusiasm, cheerfulness; stabilizing tools, like calmness and consistency; time saving tools; conforming tools (firmness, patience); restraining tools; and tools for fashioning loyalty. A description of each quality is given, and a paragraph entitled "Executive Conduct" discusses how it can be exercised in practise. The third chapter is concerned with problems of "Executive Control," such as authority, orders, responsibility, and disciplinary problems (punctuality and absenteeism). The fourth, "Executive Stimulation," analyzes the instinctive tendencies to which an executive may appeal in developing the "driving force which is within the individual" (42). The fifth chapter is entitled "Executive Duties," and contains useful information about the analysis of labor requirements, introducing the new employee, training, transfer, praise, reproof, discharge, and termination of employment.

The next two chapters examine certain "Difficulties with Subordinates." The basis of approach to these difficulties is outlined and applied to such questions as open and covert opposition, sullenness, discourtesy, disloyalty, prejudice, irresponsibility, religious differences, difficulties due to wages, and the agitator. These do not exhaust the author's list, but are selected as typical.

Finally, a chapter is devoted to such "Difficulties with Superiors and Associates" as disagreement with orders, administrative delays, determining the scope of authority, and difficulties in obtaining wage increases for employees.

Professor Schell has gathered a large amount of material and has performed a miracle of compression. Indeed, if it were not for his explicit statement in the preface (quoted above) one might get the impression that the argument was oversimplified. But the material is there, and will prove useful to the executive who is aware of the nature of his difficulties. For this is a volume of tabloid suggestions, which the foreman or office manager will expand for himself, if he reads them thoughtfully enough.

The reviewer takes the liberty of differing with the author in respect of one or two passages. The first is this: "Don't vacillate. A poor plan persevered in is better than a good one shifted while being performed" (19). This is not always the case, depending on the reason for shifting the good plan. A poor plan persevered in for the sake of perseverance is worse than no plan at all.

But a more serious criticism may be brought against Professor Schell's use of the concept of intelligence. Some quotations will serve to state the argument. "Do not interpret prejudice as a form of antagonism. It is an unfortunate quality in persons of limited ability and background. In younger persons, prejudice is usually coupled with low intelligence. In older people, its presence may foretell the cessation of constructive thinking. While prejudice is sometimes the offspring of opinionative stubborness, it usually reflects a lack of intellectual power." (95). "The discourtesy of employees to customers or to other employees requires different treatment. This defect often appears in employees of relatively low

intelligence . . . . " (94). And in discussing dishonesty, "If we agree that the ability to distinguish right from wrong is proportional to the intelligence of the individual . . . . " (98). Here are prejudice, discourtesy, and one type of dishonesty, all blamed on a lack of intelligence. But these qualities are the products not of a defective nature but of a peculiar nurture; they are traits of personality, and intelligence is not the only clue to personality. It is a dangerous thing to countenance the comment "low intelligence" in such cases, and more dangerous to encourage it. This is too simple a solution; a wiser plan would suggest that the executive try to understand the situation underlying the peculiarity and attack it from that side.

Again, Professor Schell speaks several times of the "productive worth of an employee." "Develop a plan whereby increases take place automatically when earned." (75). "Distinguish between the man's value and his viewpoint" (81). "When a wage system which rewards the employees proportionately to their productive worth is in operation . . . . " (113). "While length of service is usually entitled to a reward, it should not become a part of the wage but should be given separately and evidently in return for loyalty rather than for productive value" (115). All this seems to imply that there is some way of measuring how many dollars a man is worth to his company; it seems to say that a piece-rate or bonus system is based wholly on the amount and kind of work which the individual performs. It appears to ignore the fact that although the employee may increase his pay under a plan of this sort by increasing his effort, the base pay is determined with reference not to the individual laborer but to the "labor market."

Yet these matters are not fundamental to the volume. The important matter is that Mr. Schell has broken the trail in the field of personal (as distinguished from *personnel*) relations. His book deserves to be read and considered by a large number of executives.

THE ELEMENTS OF RETAIL SALESMANSHIP

By Paul W. Ivey. New York: The MacMillan Company 1923. Pp. x + 275

Reviewed by Natalie Kneeland

A new edition of *The Elements of Retail Salesmanship* has just been put out by Mr. Paul W. Ivey. It is identical with the first edition published in 1920 except for the addition of two new chapters on "Appealing to the Imagination" and "Selling by Suggestion," covering twenty-four pages.

Mr. Ivey's book is written in a scholarly, mature style, and at the same time is delightful reading. Its scope, treatment of the subject and excellent illustrations, together with the problems given at the back of the book, make it a practical text for teacher or student. The chapter on "Modern Development" and the two chapters on "Knowing the Merchandise" are particularly suggestive.

However, one cannot help feeling disappointed in the lack of new material presented in this edition. Retail store training has made such rapid strides in the last few years that one expects to see this development reflected in the new literature on the subject. But such is not the case with this book. The two additional chapters add no new material. Furthermore, the bibliography is not up to date. The most recent book cited was published in 1918.

Because of its excellence of style, broadness of scope, soundness and originality of content and lack of superfluous material, the earlier edition of this book stood out as one of the most valuable contributions in this field. To publish a second edition so nearly identical with the first, after a lapse of two years, in a field in which development has taken place so rapidly, detracts decidedly from the value of the book.

THE CONTROL OF WAGES

By Walton Hamilton and Stacy May. New York: George H. Doran, 1923. Pp. 185

REVIEWED BY DAVID R. CRAIG

Mr. Henry Clay has said that "a theory which is worth the getting can be found in an attack upon an important problem." Mr. Hamilton and Mr. May have quoted this remark and have followed its implications with results which are a striking proof of its truth. By attacking the problem of control they arrive at a theory of wages which seems at last to give a sensible explanation of the wage facts that everybody can see.

The first question is whether the general rate of wages can be controlled, and the authors' answer is that since wages are not made by "natural laws" they are products of human arrangements; they do not rest upon a "wages fund," "specific productivity," or some other imponderable, but their sources are in management, technique, organization, and other specific elements which make up such abstractions. They are not inevitable, they are subject to control. If they can be controlled, they can be raised. Where is the increment to come from? That is the second question, and goes to the heart of the problem. "The discovery of potential increments lurking here and there in the economic order will furnish all the material that is necessary for a formulation of a theory of wages which is grounded in reality and which is relevant to the problem of controlling wages."

It will be useful to quote the authors' own summary of their "functional theory of wages" (pp. 107–8):

"In terms quite formal and far too solemn, the rate of wages paid in an industry or occupation is a combination of

I. The laborer's real wage. The size of this depends upon
  1. The nominal rate of wages. This, in turn, rests upon
    A. The position of the industry or occupation as regards
      a. The prices of its products, the costs of its raw materials, and the sizes of the incomes which go to the owners, to the management, and to others who have claims upon it.
      b. The current state of 'the industrial arts,' with respect to labor, management, technique, industrial equipment, and the organization of the plant.
      c. The current state of 'the economic arts' which consists of a large number of conventions and arrangements. Typical of these are the guidance of industry by business, the organization of industry as a number of competing concerns, the placing of 'the wages bill' against separate establishments rather than against the industry as a whole, and the absence of any competent research staff for the conscious development of a less wasteful organization for industry.
    B. The ability of wage-earners to discover and to appropriate income in competition with other

groups who would possess it.

2. The purchasing power of the nominal wage over the goods and services which make up the laborer's budget.

II. The 'free income' of services which fall to the lot of the laborer as an employee in industry or as a member of 'the political order.'"

This summary follows after a more elaborate statement of the basis on which wages rest. Two general sources of wage increases are suggested: first, encroachment on the share of others; and second, increase of the product. From the viewpoint of wise strategy, the authors say, "it is easier to appropriate new income than to expropriate funds already claimed. An aggressive wages policy indicates an approach which promotes increased productivity in every case where it seems that such an increase may be made to swell the return which accrues to the worker." They point out that the attack must be made not on the general rate, but on the specific rates in particular industries. And they go on to establish modes of procedure which call for much intelligence and patience. Particularly suggestive is their advice to tap "sources which will yield progressive increments and which are not quickly exhausted." In finding the "best" sources, the worker is advised to notice that the factors on which a wage rate rests are subject to very different controls, and that they are far more numerous than is usually supposed, because the conventions which underlie wage rates are usually taken for granted. When he has found a promising source of increment to the wage rate, the worker should "look the gift horse in the mouth" and be sure that his claim to an increment from this source rests "upon some justification other than the power to take." And finally, "no theory of wages is a substitute for an intelligent attack upon a specific problem. The value of the discussion presented here, if it has any, is in supplying an approach which will enable such attacks to be made more intelligently." The last chapter describes the existing literature on the subject of wages.

The book forms one of the volumes of the Worker's Bookshelf; the authors give credit to the Amherst Classes for Workers with having hammered into it "whatever reality" it has; the passages quoted show that it was written for labor groups. Mr. Hamilton and Mr. May did a serious job, without much solemnity. In the place of footnotes and documentation, which are implicit in the text, the reader finds apt quotations from the philosophisms of Mr. Dooley. No more tasty economic theory was ever served.

It is interesting to speculate on the readiness with which employers will make use of the theory outlined in this valuable book. Its worth to its intended readers will be obvious. Its unintended audiences may see, if they read it, that here is something they ought to know about if they are not eventually to be made fools of before wise arbitrators.

THE HOBO

By Nels Anderson. Chicago: University of Chicago Press, 1924. Pp. 302

Reviewed by Robert F. Lovett

The nature of a casual worker, his haunts, motives, philosophies and requirements are presented in this book in a serious, sympathetic and first-hand picture. The study is chiefly sociological in kind and fills a need for detailed information about the homeless worker.

It is difficult to find an industry of any size or even a business of great importance which is not dependent at some time in the

year on seasonal and thus on casual labor. Every employer of shifters and floaters will find help in this survey. It gives him a background and understanding of the hobo type.

Of all economic causes for leaving home, the chief ones to influence men are (1) seasonal occupations, (2) local changes in industry, (3) seasonal fluctuations in demand for labor, and (4) periods of unemployment. These conditions of work tend to require and create the migratory worker. For this reason the obligation to solve such problems falls more heavily upon employers of men than on any other group of society.

While the study was made in and about Chicago, the findings, though not national in scope, indicate (a) that the solutions of the problems involved should be national and not local and (b) that the problem of the homeless, migratory worker is but an aspect of larger problems of industry, such as unemployment, seasonal work, and labor turnover. Specific recommendations, included as Appendix A, class the study as one of great economic and social value. A bibliography several pages in length completes the book.

Abstracts

The Gyppo System. E. B. MITTELMAN, Journal of Political Economics, December, 1923, Vol. 31, pp. 840–852.

The gyppo system is a system of remuneration, ranging from a simple piece wage to a complicated contract system, developed in the Northwest pine belt during the past five years. The industry had been accustomed to using farmers in doing jobs on miscellaneous holdings at so much per thousand, in which case the farmers furnished their own tools and hired whatever help was necessary. A strike called by the I. W. W. in 1918, was so effective that the employers adopted a form of remuneration based on output, and started what is now called the gyppo system. The expansion of the system was merely an application of the experience of the farmer to the entire labor force.

The conditions obtaining in the gyppo system are varied. In some cases gyppos are group bosses as well as group piece-workers. At first they were compelled to furnish their own tools, but more recently the companies have furnished them. In most cases the gyppos deal directly with the company, while in a few instances they are related to contractors who in turn deal with the company.

The law of supply and demand did not apply to the gyppo system when it was introduced. At first the companies did not know what to pay. The companies thought the gyppos were making too much money, so they cut their rates. Even at this the gyppo could earn more than he could as a day-worker. In spite of this the labor cost per unit of output declined. But this has come through excessive exertions and excessive hours. It has reduced the farmers to the weakest position in the system, and is regarded as having done a great deal in weakening the I. W. W. in the past five years. By the use of contract and the piece work basis of pay it has individualized employment to such an extent that organization among the workers is almost impossible.

The Supreme Court and the Minimum Wage. EDWARD BERMAN, Journal of Political Economics, December, 1923, Vol. 31, pp. 852–857.

The majority opinion of the Supreme Court on April 9, when the District of Columbia minimum wage law was declared unconstitutional by a vote of 5 to 3 raised the following questions: Do women have bargaining power equal to that of men in making a contract for wages? Do women who make wage contracts with employers stand on an equality of bargaining power with them? Has low wages any connection with health? Is human labor power a commodity similar in principle to other kinds of goods? Is a law which endeavors to guarantee to women a wage which enables them to keep in health and preserve their morals, one which widens the operation of the police power "to a great and dangerous degree?" The majority opinion of the Supreme Court answers these questions in the affirmative, and thereby endangers all minimum wage legislation which obtains in fourteen states at the present time.

In guaranteeing 12,500 women in the District of Columbia a living wage the law is very much a matter of public interest. Even former Supreme Court decisions have assumed an inequality of contracting power between the employer and employee. Many factors are convincing that women in industry need more protection than men. A wage set by a board of advisers investigating the facts is more just than a wage set by one person, the employer. And the price of labor and the price of other goods are not in the same category.

In view of these considerations, the majority opinion of the Supreme Court gives little confidence in the efficacy of our law as a protector of the economically weak.

A Study of the Output of Workers under a Particular Wage Incentive. H. D. KITSON, University Journal of Business, November, 1922, Vol. 1, No. 1, pp. 54–68.

This article is a report of a measurement in quantitative terms of the influence of a wage-incentive in the form of a graduated bonus on the production of 40 hand compositors over a period of 12 months. Production records were tabulated during the first 20 weeks of the application of the incentive and thereafter at three-month intervals. The compositors averaged ten years in experience; range, 1 to 27 years, median 8.5 years. The group improved its output markedly, individually and en masse. The greatest improvement occurred in the first four weeks of the 20 week period, and in the first 20 weeks of the entire period covered. The rate of improvement was irregular. There were apparently two general types of workers: one increasing rapidly at first reaching its maximum output early in the period, falling back slightly to its permanent level; the other increasing more slowly and at a lower level than the first group. Long experience as a compositor was not necessary for high output, for the less experienced half of the group made the highest ultimate records. The evidence strongly indicates that most if not all of the workers consciously or unconsciously "stereotyped" their output, and though capable of a higher level of work, remained safely above the 100 per cent efficiency mark set by the management. An incentive seems to reach a point at which it ceases to stimulate further improvement; it may lead to a true physiological limit; it may lose further stimulating power.

The gross result of this particular experiment is that an incentive is not necessarily a goad forcing a worker beyond his limit, but a stimulus for him to substitute more economical methods for wasteful habits with financial profit and probably with less fatigue.

Validity of Character Judgments Based on External Criteria. GLEN U. CLEETON AND F. B. KNIGHT. Journal of Applied Psychology, June, 1924, Vol. 8, No. 2, pp. 215–231.

The following traits regarding which the character analysts show less disagreement among themselves were selected for study:

Sound judgment (28)
Intellectual capacity (29)
Frankness (29)
Will power (36)
Ability to make friends (13)
Leadership (30)
Originality (23)
Impulsiveness (20)

From systems of character analysis 201 physical traits were selected that were claimed to be an index of these mental traits,—28 physical traits indicating judgment, etc., as shown by the figures in brackets in the above list. These physical traits were measured with calipers, sliding compass, steel tape and head square on 28 subjects. The subjects were members of fraternities or sororities and each subject was rated as to the foregoing mental traits by 20 members of the fraternity or sorority. Each group was also placed on the platform and rated casually as to the 8 traits by 70 judges,—business men and students of personnel management. These latter ratings were to determine whether valid judgments could be made by physiognomy or phrenology without using a specific system.

The ratings by close associates are reliable. The correlations between ratings by one half of the judges and those by the other half are high and range from 0.60 for "frankness" to 0.95 for "judgment." There is some indication of the "halo" effect for of the 28 intercorrelations between the traits there are 3 greater than 0.85 and 16 between 0.55 and 0.84.

The ratings by casual observers are likewise reliable, i.e., half the judges agree fairly well with the other half. The correlations range from 0.74 for "frankness" to 0.93 for "judgment." There is also

some indication of "halo" in these ratings as 10 of the intercorrelations between traits are over 0.55.

The measurements by external signs, i.e., the physical measurements are not reliable. The measures that are alleged to indicate a given trait do not correlate significantly with one another. A typical set, —the intercorrelations of the 28 physical measures for "judgment,"—range from 0.10 to 0.30.

The average correlations of all the physical measures for a given trait with judgment of that trait by close associates are as follows:

Judgment	0.005
Intelligence	0.027
Frankness	0.055
Friendliness	0.11
Will power	0.07
Leadership	0.04
Originality	0.09
Impulsiveness	0.10

The judgments of casual observers correlate with those of close associates slightly better than would be expected by mere chance. For three traits the correlation is about 0.30 and for the other 5 traits less than this figure.

"The average of 201 correlations between variations in physical traits purported to reveal variations in character traits and our criteria was 0.00 with the correlations varying from 0.00 as chance would account for." "Physical measurements which underly character analysis agree neither with themselves nor with other measures of character."

Experimental Studies in Vocal Expression. II. The Prediction of Talent for Vocal Expression in Reading. ANDREW THOMAS WEAVER. Journal of Applied Psychology, June, 1924, Vol. 8, No. 2, pp. 159–186.

The subjects were 210 students in a public speaking course. Each subject read the same selection, standing at the back of the room so that the judges would not be influenced by gesture or other appearance. The subjects were graded as to "vocal expressiveness" by the other students in their class. Five of the Seashore tests for musical talent were given by means of phonograph records. The consonance test was discarded because of its high correlation with the other tests. The Terman vocabulary test was also given. The zero order correlation coefficients with the criterion are as follows:

Sense of pitch	0.48
Sense of intensity	0.18
Sense of time	0.19
Tonal memory	0.35
Vocabulary	0.27

The regression equation for the five tests gives a multiple correlation of weighted tests and criterion of 0.52. Omitting the vocabulary test this is 0.49. The test for sense of pitch carries most of the load as shown by the zero order coefficients and also by the coefficients of the fourth order. In the latter case this test correlates 0.33 while none of the other coefficients are half as large.

An Experimental Study of the Vocational Interests of a Liberal Arts College Group. KATHRYN MCHALE. Journal of Applied Psychology, June, 1924, Vol. 8, No. 2, pp. 245–255.

Used as information test based on vocational material, on the theory that interest in a field may be reflected in the degree of information regarding that field. The test was taken by 133 college women in their junior year. They also underlined in order of preference five choices of vocation from a suggested list. Two years later they were sent a questionnaire and information was also obtained from their employers as to vocational success.

Vocational choice is not particularly stable. In the two years 25 per cent changed their first choice and 41 per cent changed their second. Only 24 per cent actually followed the vocation of their first choice and 28 per cent their second choice while 20 per cent pursued vocations which they did not mention in their five original choices. Intelligence test and vocational test correlate low except in a few selected groups. Success as estimated by employers correlates with score in the vocational test 0.71 for the educational and social service group, 0.81 for the

business group and 0.67 for the science group. "The test has some degree of validity which is a little more objective than choices as the individual selects and holds to them and general intelligence tests as used for specific vocational guidance."

Intelligence Test Scores and Business Success. W. V. BINGHAM AND W. T. DAVIS. Journal of Applied Psychology, March, 1924, Vol. 8, No. 1, pp. 1–22.

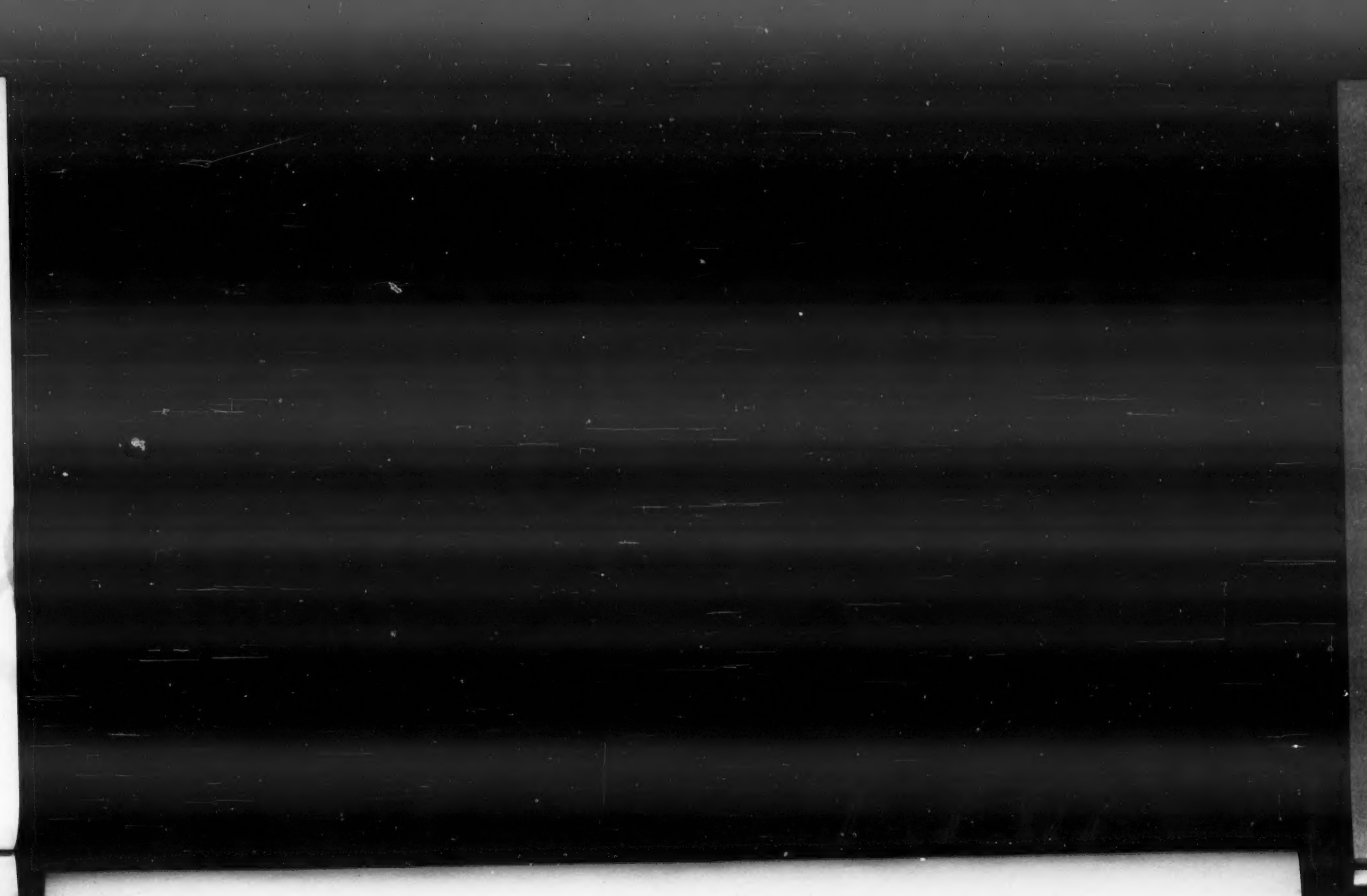
A spiral omnibus form of Army Alpha (Bureau of Personnel Research Test VI) was given to about 100 business men at the Babson Statistical Conference. All score above the army average and 83 per cent are in class A or B. This suggests that a certain minimum intelligence is necessary for business success. The executives score slightly higher than the salesmen in the group. Analysis of average scores in the different kinds of test items show the salesmen more proficient in disarranged sentences and the executives superior in arithmetic and number completion.

The men were requested to fill out a personal history blank. The 73 who returned the blank score considerably higher in intelligence than the remaining 29. Five members of the staff of Carnegie Tech rated these 73 men as to business success on the basis of the information in the blank. Four grades of success were used. The correlation between this criterion and test score is negligible and this is likewise the case when age is kept constant by partial correlation. "The evidence in hand suggests that superiority in intelligence, above a certain minimum, contributes relatively less to business success than does superiority in several non-intellectual traits of personality."

A Mental Profile from an Omnibus Group Test. JOHN J. B. MORGAN. Journal of Applied Psychology, March, 1924, Vol. 8, No. 1, pp. 52–56.

In the usual omnibus test it is difficult to analyze ability in particular sorts of test items. In the Morgan Mental Test the items are arranged very closely in order of difficulty and rough mental age equivalents are available for each sort of item. A record card has these mental age equivalents in a column at the left followed by 7 columns for the 7 sorts of test items. In these columns are numbers indicating the items on the line corresponding to the mental age at the left. After checking on this card the items failed, a star is placed in each column midway between the highest correct performance and the lowest failure. These stars provide a profile which is valuable for analysis of special aptitudes.

A Test of the Downey Will-Temperament Test. MELVILLE J. HERSKOVITS. Journal of Applied Psychology, March, 1924, Vol. 8, No. 1, pp. 75–88.

The Downey Group Will-Temperament Test was given to groups of 7, 8 and 10 persons. Each person knew all the others of his or her group well and in many cases intimately. One group was composed largely of musicians and artists, another of professional and business people and a third of students living in the same dormitory. Each person rated the others in his or her group in each of the 12 Downey traits using a scale from 0 to 10.

Correlating every score in a trait with every rating of the trait (over 2000 judgments) r is 0.06 ± 0.01. Correlating average rating on a trait with score in that trait for all traits r is 0.13 ± 0.04. Average rating and test score are also correlated for each trait separately. The coefficients range from 0.03 to 0.35 and average 0.12 ± 0.03. To correct the first coefficient mentioned for attenuation it is necessary to assume the correlation between sets of ratings. With assumptions of 0.10, 0.30 and 0.60 the corrected coefficients are 0.39, 0.23 and 0.16 respectively. Further revision of the test is necessary.